

CLAIMS

1. An anode material for a secondary battery which is used for an anode in a non-aqueous electrolyte secondary battery having at least the anode, a cathode and a lithium-ion conducting non-aqueous electrolyte, comprising an Si oxide and at least one noble metal.

2. The anode material for a secondary battery as claimed in Claim 1, wherein when the Si oxide is expressed in SiO_z , $0.8 \leq z \leq 2$.

3. An anode material for a secondary battery which is used for an anode in a non-aqueous electrolyte secondary battery having at least the anode, a cathode and a lithium-ion conducting non-aqueous electrolyte, comprising a lithium silicate and at least one noble metal.

4. The anode material for a secondary battery as claimed in Claim 3, wherein when the lithium silicate is expressed in Li_xSiO_y , $0 < x$ and $0 < y \leq 4$.

5. The anode material for a secondary battery as claimed in any of Claims 1 to 4, further comprising lithium metal.

6. The anode material for a secondary battery as claimed in any of Claims 1 to 5, wherein the noble metal is at least one metal selected from the group consisting of Pd, Ag, Pt, Au, Rh, Ir, Ru, Os and Re.

7. The anode material for a secondary battery as claimed in any of Claims 1 to 6, wherein when a ratio of Si atoms to noble-metal atoms is expressed in a:b, $0.01 < b/a$.

8. The anode material for a secondary battery as claimed in any of Claims 1 to 7, partially or wholly having an amorphous structure.

9. An anode for a secondary battery, comprising an activator layer having a film-structure anode activator which comprises the anode material for a

secondary battery as claimed in any of Claims 1 to 8 on at least one side of an anode collector.

10. The anode for a secondary battery as claimed in Claim 9, wherein the activator layer is formed by a vacuum film-forming method.

11. The anode for a secondary battery as claimed in Claim 10, wherein the vacuum film-forming method is CVD, vacuum deposition or sputtering.

12. An anode for a secondary battery, comprising an activator layer having a particulate-structure anode activator which comprises the anode material for a secondary battery as claimed in any of Claims 1 to 8 on at least one side of an anode collector.

13. The anode for a secondary battery as claimed in Claim 12, wherein the anode activator is formed by mechanical processing.

14. The anode for a secondary battery as claimed in Claim 12, wherein the anode activator is formed by a vacuum film-forming method.

15. The anode for a secondary battery as claimed in Claim 14, wherein the vacuum film-forming method is CVD, vacuum deposition or sputtering.

16. The anode for a secondary battery as claimed in any of Claims 12 to 15, wherein the anode activator is further heat-treated.

17. The anode for a secondary battery as claimed in any of Claims 9 to 16, wherein a center-line average roughness (Ra) of the anode collector is 1/10 or more of a thickness of the anode collector.

18. A non-aqueous electrolytic-solution secondary battery comprising the anode for a secondary battery as claimed in any of Claims 9 to 17.